



Material Safety Data Sheet WD-930

SECTION 1. ----- CHEMICAL IDENTIFICATION AND COMPANY IDENTIFICATION -----

Name On Label: Trimethoxysilane Min.99%

Product Number: WD-930

Manufacturer / Supplier: Wuhan University Silicone New Material Co., Ltd.

Post / Physical Address: Wuhan University, Hubei, China

Emergency Telephone Number: +86-27-68756775

FAX: +86-27-68754159

SECTION 2. ----- COMPOSITION/INFORMATION ON INGREDIENTS -----

Name : Trimethoxysilane

Minor Impurities : Not determined

CAS Number : 2487-90-3

EINECS Number : 219-637-2

MF: C₃H₁₀O₃Si

UN No. : 2929

SECTION 3. ----- HAZARDS IDENTIFICATION -----

Hazard class: 6.1

Packing group: I

LABEL PRECAUTIONARY STATEMENTS

FLAMMABLE

HIGHLY TOXIC (USA)

TOXIC (EU)

TOXIC BY INHALATION.

CAUSES BURNS.

TARGET ORGAN(S):

EYES

KIDNEYS

KEEP AWAY FROM SOURCES OF IGNITION - NO SMOKING.

IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).

IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.

WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE PROTECTION.

SECTION 4. ----- FIRST-AID MEASURES-----



IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES OR SKIN WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES.

IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS. CALL A PHYSICIAN IMMEDIATELY.

IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.

ASSURE ADEQUATE FLUSHING OF THE EYES BY SEPARATING THE EYELIDS WITH FINGERS.

SECTION 5. ----- FIRE FIGHTING MEASURES -----

EXTINGUISHING MEDIA

CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.

WATER MAY BE EFFECTIVE FOR COOLING, BUT MAY NOT EFFECT EXTINGUISHMENT.

SPECIAL FIREFIGHTING PROCEDURES

WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES.

USE WATER SPRAY TO COOL FIRE-EXPOSED CONTAINERS.

UNUSUAL FIRE AND EXPLOSIONS HAZARDS

FLAMMABLE LIQUID.

VAPOR MAY TRAVEL CONSIDERABLE DISTANCE TO SOURCE OF IGNITION AND FLASH BACK.

CONTAINER EXPLOSION MAY OCCUR UNDER FIRE CONDITIONS.

FORMS EXPLOSIVE MIXTURES IN AIR.

SECTION 6. ----- ACCIDENTAL RELEASE MEASURES -----

EVACUATE AREA.

SHUT OFF ALL SOURCES OF IGNITION.

WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS AND HEAVY RUBBER GLOVES.

COVER WITH AN ACTIVATED CARBON ADSORBENT, TAKE UP AND PLACE IN CLOSED CONTAINERS. TRANSPORT OUTDOORS.

VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

SECTION 7. ----- HANDLING AND STORAGE -----

REFER TO SECTION 8.

SECTION 8. ----- EXPOSURE CONTROLS/PERSONAL PROTECTION -----

WEAR APPROPRIATE NIOSH/MSHA-APPROVED RESPIRATOR, CHEMICAL-RESISTANT GLOVES, SAFETY GOGGLES, OTHER PROTECTIVE CLOTHING.



FACESHIELD (8-INCH MINIMUM).
USE ONLY IN A CHEMICAL FUME HOOD.
SAFETY SHOWER AND EYE BATH.
USE NONSPARKING TOOLS.
DO NOT BREATHE VAPOR.
DO NOT GET IN EYES, ON SKIN, ON CLOTHING.
WASH THOROUGHLY AFTER HANDLING.
DISCARD CONTAMINATED CLOTHING AND SHOES.
KEEP TIGHTLY CLOSED.
KEEP AWAY FROM HEAT, SPARKS, AND OPEN FLAME.
STORE IN A COOL DRY PLACE.

SECTION 9. - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - -

PHYSICAL PROPERTIES

BOILING POINT: 86 【760mmHg】

Density _{25/25°C}: 0.855-0.865

Melting point: -115 C

Boiling point: 81 C

Flash point: -4 C

SECTION 10. - - - - -STABILITY AND REACTIVITY - - - - -

STABILITY

STABLE.

CONDITIONS TO AVOID

MAY DECOMPOSE ON EXPOSURE TO MOIST AIR OR WATER.

INCOMPATIBILITIES

OXIDIZING AGENTS

ACIDS

BASES

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS

CARBON MONOXIDE, CARBON DIOXIDE

SILICON OXIDE

METHANOL

HAZARDOUS POLYMERIZATION

WILL NOT OCCUR.

SECTION 11. - - - - - TOXICOLOGICAL INFORMATION - - - - -

ACUTE EFFECTS

WARNING: AVOID EYE CONTACT BECAUSE TETRAMETHYL ORTHOSILICATE UNDERGOES HYDROLYSIS READILY, PRODUCING METHANOL WHICH CAUSES IRREVERSIBLE BLINDNESS.

CONTACT WITH MOISTURE LIBERATES METHANOL. INGESTION OF METHANOL MAY



CAUSE BLINDNESS, NAUSEA, HEADACHE, VOMITING, GASTROINTESTINAL UPSET, DIZZINESS, IRREGULAR BREATHING, WEAKNESS, CONFUSION, DROWSINESS, UNCONSCIOUSNESS, AND DEATH.

MATERIAL IS EXTREMELY DESTRUCTIVE TO TISSUE OF THE MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT, EYES AND SKIN.

INHALATION MAY RESULT IN SPASM, INFLAMMATION AND EDEMA OF THE LARYNX AND BRONCHI, CHEMICAL PNEUMONITIS AND PULMONARY EDEMA. SYMPTOMS OF EXPOSURE MAY INCLUDE BURNING SENSATION, COUGHING, WHEEZING, LARYNGITIS, SHORTNESS OF BREATH, HEADACHE, NAUSEA AND VOMITING.

TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED. MAY BE HARMFUL IF ABSORBED THROUGH THE SKIN.

CAN CAUSE BLINDNESS.

TOXIC IF INHALED.

MAY BE HARMFUL IF SWALLOWED.

CHRONIC EFFECTS

TARGET ORGAN(S):

EYES

KIDNEYS

LUNGS

SILICIC ACID, TETRAMETHYL ESTER

TOXICITY DATA

ORL-RAT LD50 1.56 mg kg⁻¹

IHL-RAT LC50 42 ppm/4h

SKN-RBT LD50 6.3 mg kg⁻¹

TARGET ORGAN DATA

SENSE ORGANS AND SPECIAL SENSES (OTHER EYE EFFECTS)

LUNGS, THORAX OR RESPIRATION (ACUTE PULMONARY EDEMA)

KIDNEY, URETER, BLADDER (CHANGES IN TUBULES)

MUSCULO-SKELETAL (OTHER CHANGES)

ADDITIONAL INFORMATION

IHL-RAT LC50:0.4 MG/L/4H

ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES (RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR COMPLETE INFORMATION.

SECTION 12. ----- ECOLOGICAL INFORMATION -----

DATA NOT YET AVAILABLE.

SECTION 13. ----- DISPOSAL CONSIDERATIONS -----

BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND



SCRUBBER BUT EXERT EXTRA CARE IN IGNITING AS THIS MATERIAL IS HIGHLY FLAMMABLE.

OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

SECTION 14. ----- TRANSPORT INFORMATION -----

CONTACT FLUKA CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

SECTION 15. ----- REGULATORY INFORMATION -----

EUROPEAN INFORMATION

FLAMMABLE

TOXIC

R 1

FLAMMABLE

R 23

TOXIC BY INHALATION.

R 34

CAUSES BURNS.

S 16

KEEP AWAY FROM SOURCES OF IGNITION - NO SMOKING.

S 45

IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).

S 26

IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.

S 36/37/39

WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE PROTECTION.

REVIEWS, STANDARDS, AND REGULATIONS

OEL=MAK

ACGIH TLV-TWA 1 PPM DTLVS* TLV/BEI,1999

MSHA STANDARD:AIR-CL 5 PPM (30 MG/M3)

DTLVS* 3,169,1971

OSHA PEL (CONSTRUC):8H TWA 5 PPM (30 MG/M3)

CFRGBR 29,1926.55,1994

OSHA PEL (SHIPYARD):8H TWA 5 PPM (30 MG/M3)

CFRGBR 29,1915.1000,1993

OEL-AUSTRALIA: TWA 1 PPM (6 MG/M3), JAN1993

OEL-BELGIUM: TWA 1 PPM (6 MG/M3), JAN1993

OEL-DENMARK: TWA 1 PPM (6 MG/M3), JAN1999

OEL-FINLAND: TWA 5 PPM (30 MG/M3), STEL 10 PPM (60 MG/M3), JAN1999

OEL-FRANCE: VME 1 PPM (6 MG/M3), JAN1999



OEL-JAPAN: OEL 1 PPM (6 MG/M3), JAN1999
OEL-THE NETHERLANDS: MAC-TGG 1 PPM (6 MG/M3), JAN1999
OEL-NORWAY: TWA 1 PPM (6 MG/M3), JAN1999
OEL-SWITZERLAND: TWA 1 PPM (6 MG/M3), JAN1999
OEL-UNITED KINGDOM: TWA 1 PPM (6.3 MG/M3), STEL 5 PPM (32 MG/M3),
SEP2000
OEL IN ARGENTINA, BULGARIA, COLOMBIA, JORDAN, KOREA CHECK ACGIH TLV;
OEL IN NEW ZEALAND, SINGAPORE, VIETNAM CHECK ACGIH TLV
NIOSH REL TO METHYL SILICATE-AIR:10H TWA 1 PPM
NIOSH* DHHS #92-100,1992
EPA TSCA SECTION 8(B) CHEMICAL INVENTORY
EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, JANUARY 2001